

ABSTRACT

A magnetic head for writing information on perpendicular media has a write pole tip, a return pole tip and a deflection pole tip is disclosed. The return pole tip has a media-facing area at least two orders of magnitude greater than that of the write pole tip, and the deflection pole tip is spaced from a trailing corner of the write pole tip by a submicron nonferromagnetic gap. Magnetic flux emanating from the write pole tip is strongest adjacent the trailing corner and directed at an angle that is not perpendicular to the write pole tip. The angled flux provides increased torque to rotate magnetic dipoles in the adjacent media layer that are oriented substantially perpendicular to the disk surface. The media may have a soft magnetic underlayer that is spaced from the write pole tip by a distance similar to the gap spacing.